CLARK COUNTY
PUBLIC WORKS

Clean Water Program

Focus: Lacamas Lake

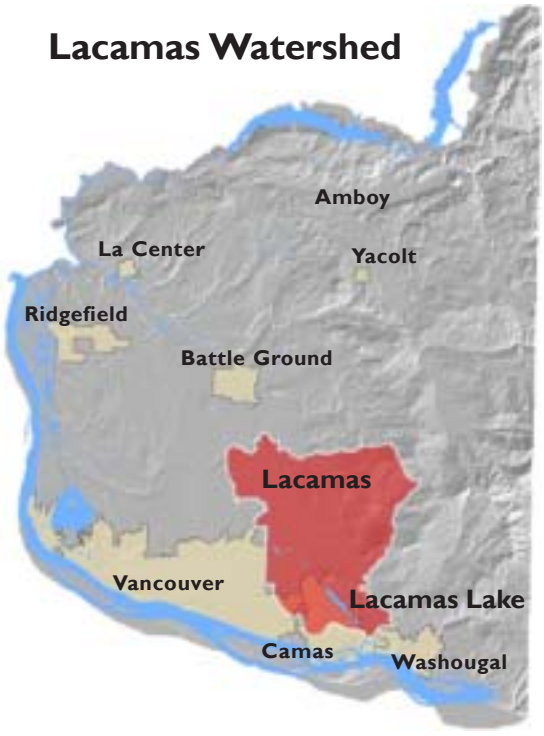
The first question people usually ask when they see county staff collecting monthly water samples at Lacamas Lake is *"How is the lake doing?"*. This focus sheet answers this and other common questions about the lake based on observations and data collected from Lacamas Creek and Lacamas Lake between 1992 to 2003.

Where is Lacamas Lake and how big is it?

Lacamas Lake is located at the northern edge of the city of Camas between State Route 500 and NE Goodwin Road. The lake is 2.4 miles long and less than a quarter of a mile in width at its widest point. The lake is relatively deep, about 60 feet at its deepest, and is heavily used for fishing, swimming, water skiing, and canoeing. Round Lake, although named separately, is part of Lacamas Lake, connected by a small channel flowing under SE Everett Road.

Who manages the lake?

No single agency is responsible for managing the lake. Clark County and the City of Camas manage parks along the shore and regulate development in the watershed. Washington State Department of Ecology (Ecology) enforces water pollution laws, and Washington Department of Fish & Wildlife is responsible for stocking the lake with fish.



Is it a natural or man-made lake?

The answer is *both*: Lacamas Lake is a natural lake which has been artificially raised for commercial purposes. In 1883, a small dam was built at the southern end of the lake raising the lake level by 12 feet. The deeper water assisted workers in floating logs down the lake to a lumber mill on Lacamas Creek. A second dam and an aqueduct were built to convey water from Round Lake to a paper mill in Camas. The dams are still in place today. Although the lake is no longer used to float logs, the paper mill still uses water from the lake.

It is safe to swim in the lake?

There is no regular monitoring done to assess health risks, however, it is generally considered safe to swim in the lake. As with any water body, you should take reasonable precautions like washing off after swimming and being careful not to ingest the lake water. The Clark County Health Department notes that no beach monitoring is currently being performed and the lake bottom has not been checked for potential hazards. Swim at your own discretion.

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Is it safe to eat fish from the lake?

There are currently no fish advisories specifically associated with Lacamas Lake; however, a statewide mercury advisory applies to largemouth bass, which live in the lake. The advisory, issued by Ecology, suggests a limit to the amount of longer-living, predator fish an individual should eat because of possible mercury contamination. Mercury is a bioaccumulative toxin, which refers to toxins that are not broken down and are passed through the food chain from organism to organism. Largemouth bass is the only species in Lacamas Lake that is part of the advisory. For more information, please visit Ecology's fish advisory website listed at the end of the focus sheet.

What kind of fish live in the lake?

Historically, the lake supported native cutthroat trout, however, these fish are almost completely absent today due to changes in lake water quality. The lake is now stocked annually with about 25,000 brown and rainbow trout from the Vancouver Trout Hatchery. These stocked fish make up the primary species, along with introduced warm-water species such as yellow perch, largescale sucker, and largemouth bass.

Lacamas Lake

What are the primary water quality problems in the lake?

Lacamas Lake is characterized as *eutrophic,* which means "nutrient-rich". Between May and October these nutrients cause a rich growth of algae which depletes oxygen for fish, clouds the water, and gives the lake a green color. Our data suggest that eutrophication may be increasing, which points to an increase in water quality problems:

- ***High nutrient levels:*** Although phosphorus and nitrogen concentrations are much lower today than when first measured in the 1970s, nutrient levels are still a cause for concern. Sources of phosphorus and nitrogen are fertilizer, farm animal and pet waste, organic matter, leaking septic systems, and sediments from eroded soils.
- ***Excessive algal growth:*** When the nutrients phosphorus and nitrogen are abundant, algal growth increases. During the warmer months, algae can reproduce at a fast rate, clouding the water and creating scum on the surface.
- ***Low dissolved oxygen:*** A spike in algal growth also means a fallout of dead algae to the lower part of the lake. The decomposition of these algae by bacteria consumes oxygen and leads to very low levels of dissolved oxygen in the bottom layers of the lake. During the summer months there is almost no dissolved oxygen below 12 feet in the lake, which limits available fish habitat.

The importance of stormwater pollution and Lacamas Creek

Stormwater runoff picks up everything in its path, including pollution, and carries it to the nearest water body each time it rains. Runoff from urban areas, farms, and roads is called stormwater. Lacamas Creek, contributing 96% of the surface flow into the lake, carries excess nutrients and other pollutants collected as it flows through its surrounding watershed. Lacamas Creek drains the majority of the lake's 67 square mile watershed, so, water pollution in the watershed contributes to problems in the creek and, ultimately, the lake.

What has been done to improve water quality?

A study done in 1987 determined that 94% of phosphorus entering the lake came from agricultural sources. In response to this study, the Lacamas Lake Restoration Program was created in 1988 to help landowners reduce the amount of phosphorus and nitrogen runoff from their farms, educate the public about how their everyday actions affect lake water quality, and study the lake to better understand impacts and possible solutions.

The Lacamas Lake Restoration Project was successful in reducing many of the

remaining agricultural sources of phosphorus to the lake and in raising awareness among local residents and farm owners. Additionally, many new regulations since the 1980s significantly reduce the amount of pollution coming from development projects.

The Lacamas Lake Restoration Project ended in 2001. In the 1990s, the number of commercial dairy farms in Clark County declined as rural land gave way to residential development. This important work in the Lacamas Watershed was done with the cooperation of many dairy owners and farmers living in the watershed and the support of Washington State Department of Ecology, the Natural Resource Conservation Service, and the Clark Conservation District.

What can you do for the future of the lake?

Everyone in the Lacamas Lake watershed influences the water quality of the lake. There are many things residents and visitors alike can do to reduce stormwater and lake pollution. Please visit the websites below for ideas. Individuals can also influence management decisions by contacting the agencies responsible for managing or regulating activities in the Lacamas Watershed.

For those who want to learn more about lakes, Clark County Public Works' lending library, the Monitoring Resource Center, has books about lake and stream ecology and water quality monitoring. You can also visit your local library or one of the lake websites below.

Questions about Lacamas Lake water quality? Contact:

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Websites:

Clark County Monitoring Resource Center:
http://www.co.clark.wa.us/water-resources/monitoring/vol-resource-center.html

Preventing stormwater pollution:

Fact sheets from Clark County Water Resources: http://www.co.clark.wa.us/water-resources/education/facts.html
Regional Coalition for Clean Rivers and Streams: http://www.cleanriversandstreams.org/index.html

Lake Ecology:

Water on the Web: http://waterontheweb.org/under/lakeecology/
Washington Lake Book - Washington Department of Ecology: http://www.ecy.wa.gov/programs/wq/plants/lakes/book_contents.html

Largemouth Bass fish advisory:
Washington Department of Health: http://www.doh.wa.gov/ehp/oehas/Bass%20FactSheet.pdf

For an alternative format, contact the Clark County ADA Compliance Office.
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